

CLAIMS

1. A recombinant, prototrophic micro-organism exhibiting an increased level of galactose uptake rate when cultured on a nutrient source providing galactose, said micro-organism being a yeast or other fungi having the ability to grow on minimal medium and over expressing the activity of an enzyme catalysing the conversion of glucose-1 phosphate to glucose-6 phosphate in the galactose uptake and metabolism pathway compared to a reference micro-organism having a native level of activity of said enzyme and from which the recombinant micro-organism is derived.
2. A micro-organism as claimed in claim 1, wherein said micro-organism is a yeast and said enzyme is a phosphoglucomutase.
3. A micro-organism as claimed in claim 1, wherein said enzyme is encoded by *PGM2*.
4. A micro-organism as claimed in claim 1, wherein said enzyme activity is expressed in the micro-organism at a level which is 1.5 or more times that of said reference micro-organism.
5. A micro-organism as claimed in claim 1, having multiple copies of a gene coding for the said enzyme.
6. A micro-organism as claimed in claim 1, wherein a gene coding for the said enzyme is under the control of a genetic control sequence which has been recombinantly introduced and which is not natively associated with said gene, leading to said over expression of said enzyme activity.
7. A micro-organism as claimed in claim 1, having a gene coding for a mutated form of the said enzyme which mutated form has a higher specific activity than the native form of said enzyme of said micro-organism.

8. A micro-organism as claimed in claim 2, which is a *Saccharomyces cerevisiae* strain.
- 5 9. A micro-organism as claimed in claim 1, which exhibits an increase of maximum specific galactose uptake rate of at least 10% in comparison to a said reference micro-organism.
- 10 10. A micro-organism as claimed in claim 1, which exhibits an increase of said enzyme activity of at least 2 fold in comparison to a said reference micro-organism.
- 15 11. A micro-organism as claimed in claim 1, which exhibits an increased maximum specific ethanol production rate compared to said reference micro-organism.
12. A micro-organism as claimed in claim 10, wherein said ethanol production is increased by at least a factor of 1.5.